

Food Studies

Grade 13

Tutorial 1

- 1 (a) Give an account of the role of enzymes in:
- (i) the digestion of proteins, including where in the body this takes place [6]
 - (ii) the browning of fruits and vegetables [3]
 - (iii) the manufacture of cheese [1]
 - (iv) rancidity in fats and oils. [3]
- (b) Define the term water balance. Explain how the body maintains water balance. [3]
- (c) (i) Identify four different good sources of calcium in foods other than dairy products. [2]
- (ii) Outline the factors that prevent the absorption of calcium in the body. [3]
 - (iii) Identify two different groups of people who are likely to be deficient in vitamin D. Describe the symptoms of vitamin D deficiency. [4]
- 2 (a) Oily fish plays an important part in a healthy diet by providing saturated and unsaturated fats. Identify and give the functions of six other nutrients found in oily fish. [6]
- (b) (i) Hypervitaminosis occurs when toxic levels of some vitamins are stored in the body. Identify two vitamins that can lead to hypervitaminosis, and explain how hypervitaminosis can occur. [3]
- (ii) Identify two different groups of people who are most at risk of hypervitaminosis. Explain the expected symptoms of hypervitaminosis for each of these groups of people. [3]
- (c) The RDI of iron is lower for women older than 50. Explain the reason for this. [2]
- (d) Discuss why foods containing iron should be eaten together with foods containing vitamin C. [2]
- (e) Discuss the effect of storage, preparation and cooking on vitamin C. [5]
- (f) Describe four features of a healthy diet. Give a reason for each feature. [4]
- 3 (a) Energy needs are affected by a person's age, gender and occupation. Describe six other factors that can affect a person's energy needs. [6]
- (b) Discuss reasons for the increasing incidence of obesity in children in some countries. [4]
- (c) Explain how and why lipogenesis occurs in the body. [3]
- (d) With the aid of diagrams, describe the structures of amylose and amylopectin. [4]
- (e) Name one disaccharide. State the name of an enzyme which hydrolyses the disaccharide and give the hydrolysis products. [3]
- (f) Name one oligosaccharide. Outline the benefits to the body of consuming oligosaccharides. [3]

(g) Describe the basic structure of non-starch polysaccharide (NSP). [2]

4 (a) Use a diagram to show the arrangement around a carbon-carbon double bond in a cis-fatty acid and a trans-fatty acid. [2]

(b) (i) Explain how the body digests lipids. [6]

(ii) Explain how the body absorbs lipids. [3]

(c) Fat is used as insulation to keep the body warm. Describe five other ways that fat is used by the body. [5]

(d) Identify two fatty foods that are often sold in modified atmosphere packaging and explain the benefits of packaging these foods in a modified atmosphere. [4]

(e) Explain how sugar affects dental health. [5]

Section B

5 (a) Pancakes are made from a pouring batter. Give the recipe and method for making a batch of pancakes. [4]

(b) Give an example of a yeast product that can be baked at home. Explain how yeast works as a raising agent. [6]

(c) Give advice on choosing and storing fresh fish. [7]

(d) Explain how to achieve an efficient and safe working environment when planning a kitchen for the home. [8]

6 (a) Give advice on the choice of locally available nutritious foods for a family on a small budget. [9]

(b) Give advice on choosing a domestic refrigerator. [8]

(c) Give advice on the use of a microwave oven. [8]

7 (a) Give advice on how to consume a healthy vegetarian diet. [12]

(b) Describe how TVP is produced. [3]

(c) Discuss the benefits of TVP. [5]

(d) Outline the labelling that you would expect to see on a packet of TVP mince. Explain why this information is useful. [5]

8 Economy is one of the factors to consider when planning meals.

(a) (i) Discuss ways of saving money when purchasing food. [5]

(ii) Suggest and explain ways of saving fuel. [6]

(iii) Explain how time can be saved when preparing and cooking meals. [6]

(b) Discuss the factors that affect food choice in your country. [8]